Before the
Federal Communications Commission
Washington, D.C.

In the matter of Office of Engineering and Technology Seeks Comment on Google's Request for Waiver of Section 15.255(c)(3) of the Commission's Rules for Radars Used for Interactive Motion Sensing in the 57-64 GHz Band	ET Docket No. 18-70

REPLY COMMENTS OF THE
COMPUTER & COMMUNICATIONS INDUSTRY ASSOCIATION (CCIA)[1]

The Computer & Communications Industry Association ("CCIA") respectfully submits these comments in regard to Google's request for a waiver of the Commission's rules for radars used for interactive motion sensing in the 57-64 GHz band.[2] The United States must continue to be at the forefront of innovative technology, and by granting this waiver, the Commission would also advance its goals of promoting international spectrum harmony and enforcing Section 7 of the Communications Act.[3] Google's Project Soli could have a large impact on how smartphones and other smart devices are used, and it could benefit people who have mobility, speech, or tactile impairments. In light of concerns regarding potential interference with short-range devices at the power levels requested in this petition, the Commission should provide an opportunity for Google to supplement the record with additional information.

Consumers and companies would benefit from the development of mobile technologies that would be enabled by this waiver. Under Section 1.3,[4] the Commission can waive its rules if good cause is shown and "where particular facts would make strict compliance inconsistent with the public interest."[5] Moreover, the Commission may grant waivers for specific requirements of its rules if a petitioner demonstrates either that: "(i) [t]he underlying purpose of the rule(s) would

[1] CCIA represents large, medium, and small companies in the high technology products and services sectors, including computer hardware and software, electronic commerce, telecommunications, and Internet products and services. Our members employ more than 750,000 workers and generate annual revenues in excess of $540 billion. A list of CCIA's members is available online at http://www.ccianet.org/members.

[2] *Request by Google LLC For Waiver of Section 15.255(c)(3) of the Commission's Rules*, ET Docket No. 18-70, (rel. Mar. 12, 2018) [hereinafter *Waiver Request*], https://ecfsapi.fcc.gov/file/10307158658894/2018-03-07%20Soli%20Request%20for%20Waiver%20%2B%20Simulation%20Study.pdf.

[3] 47 U.S.C. § 157.

[4] 47 C.F.R. § 1.3.

[5] Northeast Cellular Tel. Co. v. F.C.C., 897 F.2d 1164, 1166 (D.C. Cir. 1990) (citing WAIT Radio v. F.C.C., 418 F.2d 1153, 1159 (D.C. Cir. 1969)).

not be served or would be frustrated by application to the instant case, and that a grant of the requested waiver would be in the public interest; or (ii) [i]n view of unique or unusual factual circumstances of the instant case, application of the rule(s) would be inequitable, unduly burdensome or contrary to the public interest, or the applicant has no reasonable alternative."[6] Although it is unnecessary for Google to meet both of those prongs, its petition does.

First, the public interest would be advanced by granting this waiver request because this technology has the ability to enhance the lives of the disabled community[7] as it would allow for touchless control of device functions and features. The Commission has previously granted waivers for products that provide benefits to disabled individuals.[8] In addition, this petition advances the Commission's goals in Section 15.255[9] to allow devices, like interactive motion sensors, to functionally operate in the 57-71 GHz band because testing of Project Soli in the 60 GHz band shows that it can operate harmoniously with other devices.

Furthermore, the Commission would not only comply with its previous goals of promoting international spectrum harmony, but it would also improve the United States' ability to compete globally.[10] Granting this waiver request would ensure that the United States remains at the forefront of technological advancement. Allowing for the operation of Project Soli in the 60 GHz band would address the Commission's objectives of allowing the use of short-range devices for interactive motion sensing and harmonizing spectrum with international standards.[11] American consumers would enjoy the same experiences with the innovative motion-control

---

[6] 47 C.F.R. §§ 1.925(b)(3).

[7] *See* Statement of Commissioner Ajit Pai, Approving in Part and Concurring in Part, Use of Spectrum Bands Above 24 GHz for Mobile Radio Services, GN Docket No. 14-177, at 2 ("Imagine being able to control your smartphone, watch, or virtually any similar device with a slight movement of your clasped thumb and index finger. Imagine the benefits that these technologies could bring to individuals with disabilities. One testbed is in the 60 GHz band, which is technically well-suited for enabling machines to 'see' subtle physical gestures.").

[8] *See In the Matter of* Implementation of Sections 716 and 717 of the Communications Act of 1934, as Enacted by the Twenty-First Century Communications and Video Accessibility Act of 2010 Entertainment Software Association Petition for Class Waiver of Sections 716 and 717 of the Communications Act and Part 14 of the Commission's Rules Requiring Access to Advanced Communications Services and Equipment by People with Disabilities, *Order*, CG Docket No. 10-213, (rel. Sept. 16, 2015) (granting the Entertainment Software Alliance's (ESA) request for a waiver of the Commission's accessibility requirements for advanced communications services (ACS) because the Commission found that it was in the public interest "to enable video game platform providers and video game publishers to build upon the accessibility solutions that have been developed by other segments of the gaming industry").

[9] 47 C.F.R. § 15.255; *see In the Matter of* Revision of Part 15 of the Commission's Rules Regarding Operation in the 57-64 GHz Band, *Report and Order*, ET Docket No. 07-113, FCC 13-112, ¶ 1 (2013) ("We believe that the enhanced 60 GHz systems that will be allowed by these rule changes will help the Commission fulfill its objectives to bring broadband access to every American by providing additional competition in the broadband market, lowering costs for small business owners accessing broadband services, and supporting the deployment of 4th generation (4G) and other wireless services in densely populated areas.").

[10] *See In the Matter of* Amendment of Part 15 of the Commission's Rules, et al., *Report and Order*, 29 FCC Rcd. 761, ¶ 44 (2014) [hereinafter *Amendment of Part 15*].

[11] *See In the Matter of* Use of Spectrum Bands Above 24 GHz For Mobile Radio Services, *Report and Order and Further Notice of Proposed Rulemaking*, GN Docket No. 14-177, FCC 16-89, ¶ 337 [hereinafter *Spectrum Frontiers 2016*]; *Amendment of Part 15*, *supra* note 10; *In the Matter* of Encouraging the Provision of New Technologies and Services to the Public, *Notice of Proposed Rulemaking*, GN Docket No. 18-22, FCC 18-8, ¶ 6 (rel. Feb. 23, 2018) [hereinafter *New Technologies*].

technology of Project Soli that Europeans currently enjoy. European Telecommunications Standards Institute ("ETSI") standards currently allow generic, short-range devices to operate in the 60 GHz band at power levels that the Commission does not currently permit.[12]

Second, continued application of the rules in this instance would be burdensome because, without a grant of this waiver, Project Soli will not function at its maximum capacity as the Commission's current power rules are too restrictive and prevent this technology from reaching its full potential. In the *Spectrum Frontiers* proceeding, the Commission considered and showed support for the idea of lifting the restriction on mobile field disturbance applications in the 60 GHz band.[13] At that time, the Commission found that mobile radars in short-range devices for interactive motion sensing, such as the one in Project Soli, could be allowed "without causing harmful interference to other users."[14] However, the Commission only allowed these short-range devices to operate at lower levels.[15] This specification essentially diminishes the use and capacity of Project Soli, which goes against the Commission's intention of allowing the use of short-range devices for interactive motion sensing.[16] Particularly, the Commission claimed that the lower power levels would minimize harmful interference potential by using mobile radars for short distances, on devices such as a smartphone or tablet,[17] which is precisely the type of device with which Project Soli is used. The Commission stated: "[a]s [it] acquire[s] more experience with these devices, [it] may consider allowing them higher power levels in the future."[18]

Under Congress' directive in Section 7 of the Communications Act, the Commission should stimulate the development of "technology and services to the public."[19] Indeed, Chairman Pai has emphasized that the Commission has not enforced Section 7, and he mandated that Commission staff follow it.[20] The Commission has acknowledged the need to act and ensure that technologies such as Project Soli are readily available.[21] No party in the 2016 *Spectrum Frontiers* record commented on the "harmful interference potential of mobile radar applications" in the 57-64 GHz band.[22] In fact, CTA contended that if field disturbance sensors operate at lower power levels with smaller fields of influence that there is less potential for interference.[23]

---

[12] *Waiver Request*, *supra* note 2, at 1-2.
[13] *Spectrum Frontiers 2016*, *supra* note 11, at ¶ 337.
[14] *Id.*
[15] *Id.*
[16] *Id.*; *see Waiver Request*, *supra* note 2, at 3.
[17] *Spectrum Frontiers 2016*, *supra* note 11, at ¶ 337.
[18] *Id.*
[19] 47 U.S.C. § 157(a); *see* 47 U.S.C. § 157(b) (emphasizing that the statute tells the Commission to act promptly).
[20] Ajit Pai, Chairman Fed. Commc'ns Comm'n, Remarks at Carnegie Mellon University's Software Engineering Institute: "Bringing the Benefits of the Digital Age to All Americans" (Mar. 15, 2017) https://apps.fcc.gov/edocs_public/attachmatch/DOC-343903A1.pdf.
[21] *New Technologies*, *supra* note 11.
[22] *Spectrum Frontiers 2016*, *supra* note 11, at ¶ 336.
[23] *See id.* at ¶ 335 ("The CTA urges the Commission to completely eliminate restrictions on field disturbance sensors across the 57-71 GHz band, thereby allowing both mobile and fixed radar applications to co-exist with communication devices. It states that applications using these sensors are powering new innovations in wireless technology – including gesture technology that allows users to interact with devices (such as mobile watches and smartphones) without needing to touch them.").

As Google's waiver request shows, devices were field tested that contained Project Soli sensors, and the developers did not cite any harmful interference at the higher power level.[24]

The Commission should take this opportunity to support technological advancements. Taking into account recent concerns regarding the potential for interference with short-range devices operating in this band, the Commission should afford Google the opportunity to provide additional information, for there are public interest benefits in advancing this technology.

April 23, 2018

Respectfully submitted,

/s/ John A. Howes, Jr.[25]
Policy Counsel
Computer & Communications
Industry Association (CCIA)
655 15th Street, N.W., Suite 410
Washington, D.C. 20005
(202) 783-0070

[24] *Waiver Request*, *supra* note 2, at 6-7 (noting that the power level was higher than the rules currently allow); *see* Experimental Radio Station Construction Permit and License for Call Sign WI2XHG, File No. 0211-EX-PL-2016 (granted Apr. 15, 2016); Experimental Special Temporary Authorization for Call Sign WJ9XBM, File No. 0195-EX-ST-2016 (granted Apr. 2, 2016); Experimental Special Temporary Authorization for Call Sign WJ9XBM, File No. 0973-EX-ST-2015 (granted Oct. 2, 2015).

[25] CCIA recognizes the contributions to this filing made by Hilary Rosenthal, a student at American University Washington College of Law who served as a law clerk for CCIA during the spring semester.